المركز الإقليمي للعواصف الغبارية والرملية
Sand and Dust Storm Regional Center

المركز الوطني للأرصاد
National Center for Meteorology

Dust and Sandstorms Events in June 2025

Executive Summary:

This report presents a detailed analysis of dust and sandstorm (SDS) events across Saudi Arabia during June 2025, benchmarked against the 21-year climatological average (2003–2024). A total of 210 dust hours distributed over 10 days were recorded, reflecting a 59% decrease in dust hours while the number of dust days remained nearly unchanged compared to the long-term mean of 513 hours and 10 days. Regional variations were marked. The Eastern and Northern regions (notably Al-Ahsa, Dammam, Dhahran, and Rafha) recorded the highest activity, with Al-Ahsa reporting 73 hours over 8 days, Dammam 51 hours over 7 days, and Dhahran 42 hours over 6 days. Rafha also showed intensified activity, with 14 hours across 2 days. In contrast, the Central and Western regions (Riyadh, Dawadmi, Gassim, Yanbu) showed sharp reductions, in some cases dropping by more than 80–90%. Stations such as Hail, Al-Jouf, and Najran reported zero activity, marking a complete decline compared to historical norms. On the event scale, blowing dust dominated exclusively, with 210 cases (100%), though far below the historical average of 492 cases (96%). Notably, no dust storms or sandstorms were recorded, compared to long-term averages of 14 and 7 cases respectively. This underscores the dominance of low-intensity SDS activity and the collapse of storm-scale events during the month. Case studies highlighted two significant blowing dust events such as Al-Ahsa (3 June 2025): Strong northerly winds of 22 knots combined with extreme dryness (41°C, dew point –7°C) reduced visibility to 1.5 km, occasionally 1 km. And, Yanbu (2 June 2025): Westerly winds of 22–24 knots reduced visibility to 1.2 km for several hours, before gradually improving to 3 km. These findings emphasize June 2025 as a month of substantially reduced SDS activity, with regional contrasts showing persistence in the Eastern and Northern sectors, but widespread suppression elsewhere. The absence of dust storms and sandstorms highlights the influence of weak synoptic systems, localized aridity, and shifting atmospheric patterns on SDS dynamics.